ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY **7 - Operational system development**	PE NUMBER AND TITLE **0203726A - Adv Field Artillery Tactical Data System**	PROJECT **322**

COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
322 Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)	18848	16730	15860	11951	9588	10731	11057	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Advanced Field Artillery Data System (AFATDS) performs Command and Control, increases Situational Awareness and automates fire support coordination for the Army, Navy, Air Force, and Marine Corps. Fire support is the effects of lethal and non-lethal weapons (fires) that directly support land, maritime, amphibious, and special operation forces to engage enemy forces, combat formations, and facilities in pursuit of tactical and operational objectives. Fire support coordination is the planning and execution of fires so that a suitable weapon or group of weapons adequately covers targets.

AFATDS performs the attack analysis necessary to determine the optimal weapon target pairing to provide maximum use of the fire support assets. As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will field New Non Line of Sight - Launch System (NLOS-LS) Precision Attack Munition (PAM) and improved Command and Control (C2) for the United States Marine Corp (USMC) Firing platform and its new munitions. AFATDS will port to a windows based operating system in FY 08. AFATDS will automatically implement detailed commander's guidance in the automation of operational planning, movement control, targeting, target value analysis and fire support planning. This project is a replacement system for the Initial Fire Support Automated System (IFSAS), Battery Computer System (BCS) and the Fire Direction System (FDS). AFATDS will interoperate with the other Army Battle Command Systems (ABCS), current and future Army, Navy and Air Force Command and Control weapon systems, and the German, French, British and Italian fire support systems.

AFATDS automates the planning, coordinating and controlling of all fire support assets in the Joint battlespace (field artillery, mortars, close air support, naval gunfire, attack helicopters and offensive electronic warfare). AFATDS will perform the Fire Support Command, Control, and Coordination requirements at all echelons of field artillery and maneuver, from Echelons Above Corps to Battery or Platoon in support of all levels of conflict. The system is composed of Common Hardware/Software employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network.

Accomplishments/Planned Program:	FY 2007	FY 2008	FY 2009
Provide program and test support for AFATDS Software Block 2 (V6.5) (08-10), Software Block 2+(V6.6) (09-11) and Software Block 3 (V6.7) (10-12).	4842	4080	4415
Complete AFATDS Software Block 2 (V 6.5)(08-10). Continue development of Software Block 2+ (V6.6) (09-10) and Software Block 3 (V6.7) (10-12). Initiate Software Block 3+ (V6.8) (11-13) development efforts.	14006	12218	11445
Small Business Innovative Research/Small Business Technology transfer program		432	
Total	18848	16730	15860

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 1 of 7
146

Exhibit R-2
Budget Item Justification

BUDGET ACTIVITY **7 - Operational system development**	PE NUMBER AND TITLE **0203726A - Adv Field Artillery Tactical Data System**	PROJECT **322**

B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	18191	16837	15912
Current BES/President's Budget (FY 2009)	18848	16730	15860
Total Adjustments	657	-107	-52
Congressional Program Reductions		-107	
Congressional Recissions			
Congressional Increases			
Reprogrammings	657		
SBIR/STTR Transfer			
Adjustments to Budget Years			-52

C. Other Program Funding Summary	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
OPA (B28600)	31663	13836	21635	7705	3495	347		Continuing	Continuing
OPA (B28620)	5249	13500	14367	19171	20380	19494	19562	Continuing	Continuing
Spares	92							Continuing	Continuing

Comment: Beginning in FY08, procurement funding for AFATDS (B28600) and MIS-AFATDS (B28620) now falls under the parent Fire Support C2 Family - SSN: B28501.

D. Acquisition Strategy AFATDS has been fielded since 1996, with the original AFATDS Version 96 Materiel Release. It has been updated with subsequent releases reflecting the Spiral development strategy of the program. AFATDS Version 6.3.2 was released in January 2004, and AFATDS Version 6.4.0.1 (out of cycle) was released in May 2007 and AFATDS Version 6.4.0.2 (out of cycle) released in Sep 2007.

As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will field New Non Line of Sight - Launch System (NLOS-LS) Precision Attack Munition (PAM) and improved Command and Control (C2) for the United States Marine Corp (USMC) Firing platform and its new munitions. AFATDS will port to a Windows based operating system in FY 08.

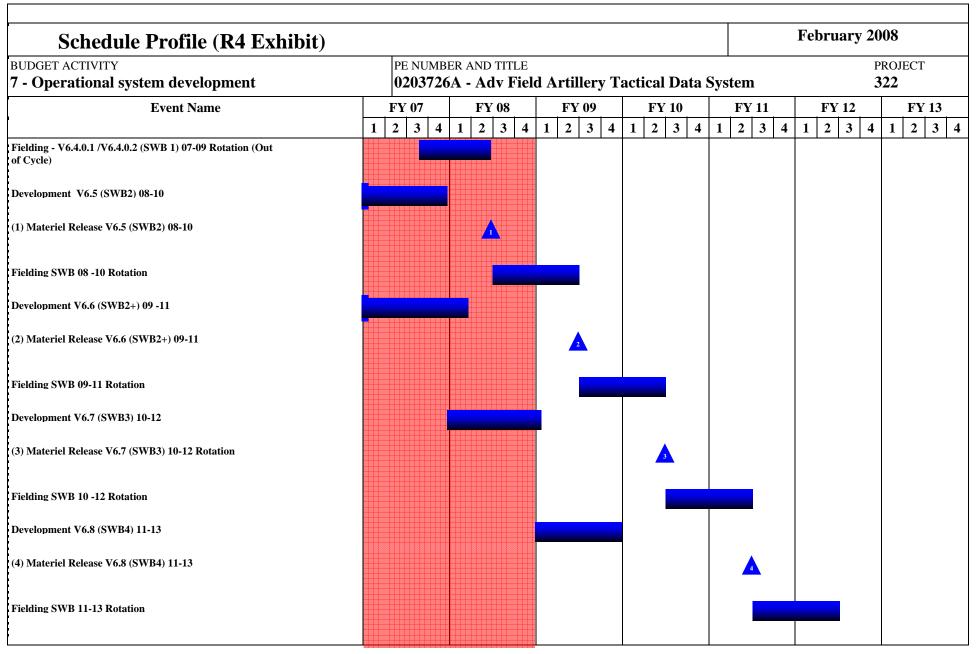| BUDGET ACTIVITY
7 - Operational system development | PE NUMBER AND TITLE
0203726A - Adv Field Artillery Tactical Data System | PROJECT
322 |

FY08 development efforts will focus on the 10-12 (SWB3) software baseline. Development efforts will continue to enhance command and control for precision weapons. Excalibur Height above Ellipsoid (HAE), Active Weapon Target pairing and Unexploded Ordnance (UXO) area computations. AFATDS on a card, also known as, 'Command and Control on a Launcher' will give an abbreviated AFATDS functionality to MLRS Launchers. It will also provide backward interoperability to Pass and Subscribe Services (PASS) and AFATDS XML Engine (AXE) for Software Block 2 (SWB2) to enable connection to SWB1/1+ versions.

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 3 of 7
148

Exhibit R-2
Budget Item Justification

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0203726A - Adv Field Artillery Tactical Data System**	**322**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Development	CPAF	Raytheon Systems Corp, Ft. Wayne, IN	220070	13767	2-3Q	11998	2-3Q	11195	2-3Q	Cont.	Cont.	
ABCS System Engineering & Integration Efforts	PWD	PEO C3T, Fort Monmouth, NJ	5390							Cont.	Cont.	
Peculiar Support Equipment (PSE)	C/FFP	General Dynamics, Taunton, MA	4843	239	2Q	220	2Q	250	2Q	Cont.	Cont.	
Subtotal:			230303	14006		12218		11445		Cont.	Cont.	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Software Development Support	MIPR	CECOM, Ft. Monmouth, NJ & Telos, Shrewsbury, NJ	6251	529	2Q	515	2Q	540	2Q	Cont.	Cont.	
Engineering Support	MIPR	CECOM, Ft. Monmouth, NJ	4788	460	2Q	440	2Q	460	2Q	Cont.	Cont.	
Subtotal:			11039	989		955		1000		Cont.	Cont.	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Management	MIPR	PM Battle Command (BC), Ft. Monmouth, NJ	1040	232	2Q	245	2Q	255	2Q	Cont.	Cont.	
Test Support	MIPR	Titan, Ft. Sill, OK and various contractors	7446	906	2Q	850	2Q	775	2Q	Cont.	Cont.	
Limited User Test/Government	MIPR	Army Test & Evaluation	5266	1250	2-3Q	950	2-3Q	800	2-3Q	Cont.	Cont.	

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 4 of 7
149

Exhibit R-3
ARMY RDT&E COST ANALYSIS

| BUDGET ACTIVITY
7 - Operational system development | | PE NUMBER AND TITLE
0203726A - Adv Field Artillery Tactical Data System | | | | | | | | | PROJECT
322 |

Confidence Demo		Command (ATEC)									
Subtotal:			13752	2388		2045		1830		Cont.	Cont.

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
PM Support	T&M	CSC, Eatontown, NJ	5145	470	2Q	477	2Q	505	2Q	Cont.	Cont.	
Program Management	MIPR	PM Battle Command (BC), Ft. Monmouth, NJ	9373	995	1-4Q	603	1-4Q	1080	1-4Q	Cont.	Cont.	
SBIR					1-4Q	432					432	
Subtotal:			14518	1465		1512		1585		Cont.	Cont.	
Project Total Cost:			**269612**	**18848**		**16730**		**15860**		**Cont.**	**Cont.**	

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 5 of 7
150

Exhibit R-3
ARMY RDT&E COST ANALYSIS

Schedule Profile (R4 Exhibit)

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0203726A - Adv Field Artillery Tactical Data System**	**322**

Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Fielding - V6.4.0.1 /V6.4.0.2 (SWB 1) 07-09 Rotation (Out of Cycle)																												
Development V6.5 (SWB2) 08-10																												
(1) Materiel Release V6.5 (SWB2) 08-10							1																					
Fielding SWB 08 -10 Rotation																												
Development V6.6 (SWB2+) 09 -11																												
(2) Materiel Release V6.6 (SWB2+) 09-11										2																		
Fielding SWB 09-11 Rotation																												
Development V6.7 (SWB3) 10-12																												
(3) Materiel Release V6.7 (SWB3) 10-12 Rotation															3													
Fielding SWB 10 -12 Rotation																												
Development V6.8 (SWB4) 11-13																												
(4) Materiel Release V6.8 (SWB4) 11-13																			4									
Fielding SWB 11-13 Rotation																												

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 6 of 7
151

Exhibit R-4
Budget Item Justification

Schedule Detail (R4a Exhibit)

BUDGET ACTIVITY **7 - Operational system development**		PE NUMBER AND TITLE **0203726A - Adv Field Artillery Tactical Data System**				PROJECT **322**

Schedule Detail	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**
Fielding - V6.4.0.1 /V6.4.0.2 (SWB 1) 07-09 Rotation (Out of Cycle)	3Q - 4Q	1Q - 2Q					
Development V6.5 (SWB2) 08-10	1Q - 4Q						
Materiel Release V6.5 (SWB2) 08-10		2Q					
Fielding SWB 08 -10 Rotation		3Q - 4Q	1Q - 3Q				
Development V6.6 (SWB2+) 09 -11	1Q - 4Q	1Q					
Materiel Release V6.6 (SWB2+) 09-11			2Q				
Fielding SWB 09-11 Rotation			3Q - 4Q	1Q - 3Q			
Development V6.7 (SWB3) 10-12	4Q	1Q - 4Q	1Q				
Materiel Release V6.7 (SWB3) 10-12 Rotation				2Q			
Fielding SWB 10 -12 Rotation				3Q - 4Q	1Q - 3Q		
Development V6.8 (SWB4) 11-13			1Q - 4Q	1Q			
Materiel Release V6.8 (SWB4) 11-13					2Q		
Fielding SWB 11-13 Rotation					3Q - 4Q	1Q - 3Q	

0203726A
Adv Field Artillery Tactical Data System

Item No. 152 Page 7 of 7
152

Exhibit R-4a
Budget Item Justification